

REMARKS/ARGUMENTS

Claims 17 to 53 are pending. Claim 39 has been cancelled, therefore, claims 17 to 38 and 40 to 53 remain pending.

Claims 17 and 35 were amended to cancel the subject matter that was added in the previous amendment.

Claims 26 and 47 were amended to include to the subject matter cancelled from claims 17 and 35, respectively.

New Claim 54 is claim 26 rewritten as an independent claim that includes all the limitations of base claim 17.

New Claim 55 is claim 47 rewritten as an independent claim that includes all the limitations of base claim 35.

New Claims 54 and 55 have been added in response to the Examiner's comment in the Office Action dated August 9, 2006 which suggested that Claims 26 and 47 would be allowable if rewritten in an independent form that included all the limitations of the base claim and any intervening claims.

I. Rejection under 35 U.S.C. § 112, first paragraph

Claims 17-25, 30-46, and 51-53 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The applicant disagrees with the rejection and believes that the currently pending claims comply with the written description requirement as follows.

The applicants invention, as claimed in Claims 17-25, 30-46, and 51-53, is to a method for modifying glycosylation structures on proteins expressed in a eukaryote host cell, which comprises expressing a recombinant nucleic acid encoding an endomannosidase activity that is targeted to a vesicular compartment within the host cell to modify the glycosylation structure on the expressed proteins. The endomannosidase activity (EC 3.2.1.130) removes the terminal glucose and an adjacent mannose residue from glucosylated glycan on proteins. The method can be practiced using a host cell expressing any endomannosidase provided the endomannosidase has the activity as defined in the specification, which is also as set forth under Nomenclature Committee of the International Union of Biochemistry and Molecular Biology (IUBMB) No. EC 3.2.1.130). One skilled in the art would reasonably know how to practice the method of the invention because the endomannosidase activity is well-characterized, as evidenced by its classification by the IUBMB (see <http://www.chem.qmul.ac.uk/iubmb/enzyme/>). Accordingly, the applicant's currently pending claims are

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not to specific endomannosidases or genes but instead are to a method which is amenable to altering protein glycosylation in a eukaryote host cell by introducing into the host cell a nucleic acid encoding endomannosidase activity. The applicant provides an example of the method and provides examples of several endomannosidases that can be used in the method.

The applicant's invention involves the recognition and discovery of the fact that the glycosylation machinery of a eukaryote cell that produces glucosylated glycans on proteins expressed in the cell can be altered by inserting a gene encoding an endomannosidase activity into the cell. Because the endomannosidase activity removes the glucose residue and an adjacent mannose residue, the eukaryote cell is altered to produce glycoproteins that do not have glucosylated glycans. Once having taught the basic concept of producing glycoproteins that do not have glucosylated glycans in a cell that normally produces glucosylated glycans by genetically introducing an endomannosidase activity into the cell, one skilled in the art is enabled sufficiently to carry out the method using any cell and introducing into the cell an endomannosidase activity. One skilled in the art can use any endomannosidase, either an endomannosidase disclosed in the specification or any other endomannosidase. There is no undue experimentation required to carry out the applicant's invention as it is claimed. Thus, one skilled in the art, having the benefit of the applicant's specification, can carry out the applicant's method using known techniques and any endomannosidase activity.

In light of the above, Claims 17-25, 30-46, and 51-53 are believed to comply with the written description requirement of 35 U.S.C. § 112, first paragraph. Reconsideration of the rejection is requested.

II. Rejection under 35 U.S.C. § 112, second paragraph

Claim 39 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.
Claim 39 has been cancelled.

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Applicant has filed concurrently herewith a petition for a three-month extension of time. Please charge our Deposit Account No. 13-2755, from which the undersigned is authorized to draw, for the requisite fee of \$1020.00 under 37 C.F.R. § 1.17(a)(3).

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In view of the foregoing amendments and remarks, it is believed that the grounds of rejections have been overcome and that the claims are in proper condition for allowance. Accordingly,

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Applicants respectfully request that all of the rejections be withdrawn and a Notice of Allowance be forwarded to the Applicants. The Examiner is invited to contact Applicants' Attorney at the telephone number given below, if such would expedite the allowance of this application.

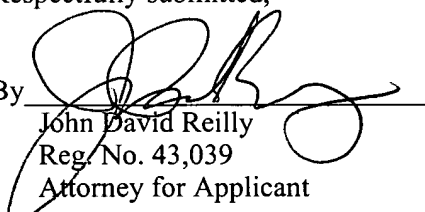
Favorable action is earnestly solicited.

CONDITIONAL PETITION

Applicant hereby makes a Conditional Petition for any relief available to correct any defect in connection with this filing, or any defect remaining in this application after this filing. The Commissioner is authorized to charge deposit account 13-2755 for the petition fee and any other fee(s) required to effect this Conditional Petition.

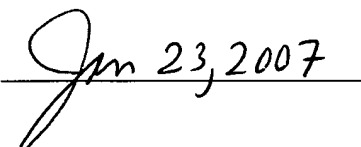
Respectfully submitted,

By


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